

## MEMORANDUM

## TAB 62

To: CHAIR AND COMMISSIONERS  
CALIFORNIA TRANSPORTATION COMMISSION

CTC Meeting: December 8-9, 2021

From: STEVEN KECK, Chief Financial Officer

Reference Number: 2.5d.(1), Action Item **YELLOW REPLACEMENT ITEM**

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District 04 – Director

Subject: **ALLOCATION FOR PROJECT WITH COSTS THAT EXCEED THE PROGRAMMED AMOUNT BY MORE THAN 20 PERCENT PPNO 2905J/EA 0J624 – ALAMEDA COUNTY – INTERSTATE 680 RESOLUTION FP-21-36**

*ACTION UPDATE: Provided additional cost increase information*

### **ISSUE:**

Should the California Transportation Commission (Commission) approve the California Department of Transportation's (Department) allocation request for \$73,855,000 for the State Highway Operation and Protection Program (SHOPP) Roadway Preservation project on Interstate 680 (I-680), in Alameda County, to complete the Ready to List phase to advertise the project?

### **RECOMMENDATION:**

The Department recommends that the Commission approve the requested allocation for this SHOPP project.

### **PROJECT DESCRIPTION:**

This project is located on I-680, in the cities of Pleasanton and Dublin, from State Route 84 to Alcosta Boulevard, in Alameda County. The project will rehabilitate 9.5 miles of the southbound 3-lane facility, upgrade guardrail, replace loop detectors and structure approach slabs, and repair drainage systems. This project was separated from its parent project, which had proposed to rehabilitate the roadway in both directions from Koopman Road to Alcosta Boulevard.

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**FUNDING AND PROGRAMMING STATUS:**

This project is a child of the original parent project that proposed to rehabilitate both northbound and southbound directions. A local express lane project that was programmed in the same delivery year was combined with the parent project. The parent project was then down scoped to rehabilitate just the northbound direction and delivered separately. A separate project to rehabilitate the southbound direction was subsequently programmed to remain with the local express lane project.

In September 2018, Alameda County Transportation Commission (ACTC) programmed a separate project to construct express lanes within the same project limits and delivery year. Due to funding constraints, ACTC proposed to split their project into two phases, with the construction of the southbound express lane as the first phase and the construction of the northbound express lane at a future date, when funding sources become available. In December 2019, ACTC requested that their southbound portion of the project be combined with the Department's parent project to provide cost savings to both partners and reduce impacts to the public by avoiding back to back construction work in the same area. In June 2020, the Department's parent project received a 20-month allocation time extension to allow incorporation of ACTC southbound express lane project during the Plan, Specification, and Estimate (PS&E) phase. The Department, in coordination with the ACTC, explored the combining of the projects and alignment with funding plans. Upon confirmation of ACTC funding plan, the Department proposed to split the roadway rehabilitation project into northbound and southbound components. In October 2020, the Department ultimately proceeded with down scoping the parent project into a northbound only rehabilitation project, and separately programming this child project for the southbound roadway rehabilitation project, in order to remain combined with the southbound portion of the ACTC express lane project. This southbound rehabilitation project was programmed for \$45,400,000 in construction capital and \$4,000,000 in construction support for delivery in Fiscal Year 2021-22.

In September 2021, the Engineer's Estimate reflected the need of \$67,247,000 in construction capital (48.1 percent over the programmed amount) and \$6,608,000 in construction support (65.2 percent above the programmed amount). The Department plans to advertise the project in January 2022 and begin construction in May 2022, with construction planned for 620 working days spanning three construction seasons.

**REASON FOR COST INCREASE:**

The construction capital and support cost estimates are greater than the programmed amount following refinement of project scope and final design at the PS&E phase. Although cost savings were anticipated, the increase to project scope, escalated unit prices, and positive protection methods were higher than expected. After consultation with the Materials and Construction divisions, the Department determined that given the lanes poor condition, that a full lane replacement would provide improved project life, better driver experience, and simplified construction methods. Therefore, certain segments of the rehabilitation were revised

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to full lane replacements in lieu of spot slab replacement, providing a substantially improved product. To take advantage of the construction activities in the project area, the project also included the construction of new fiber optic lines to close a much-needed gap in the Traffic Operation System Communication system. Also, in an effort to increase protection for contractors, workers, and motorists, the project will employ positive protection methods to reduce accidents during construction.

**Capital Cost Increase:**

This project is a child project of the parent project that proposed to rehabilitate I-680 between Koopman Road and Alcosta Boulevard in both directions. The project included upgrading existing Metal Beam Guard Rail to Midwest Guardrail System, construct concrete vegetation control, replace loop detectors, replace structure approach slabs, and repair/replace drainage systems. Combining the projects was expected to provide significant cost savings to both partners from the overlapping construction work and minimize unnecessary disruption to the travelling public.

One reason for the cost increase was due to the fact that cost savings that had been assumed would occur with combining the rehabilitation and express lanes work, did not materialize. By taking advantage of economies of scale, cost savings were assumed from mobilization, traffic handling, Construction Zone Enhanced Enforcement Program, and Time Related Overhead. Additionally, to take advantage of construction activities in the project area and close a much-needed gap in the Traffic Operation System Communication system, the project included the construction of new fiber optic lines, which is estimated at \$4,000,000.

In addition to the increased project scope, the project also experienced major cost increases due to quantities and escalated unit bid prices. The following items had a significant increase in cost:

- Remove Concrete Pavement and Base increased by 75 percent
- Precast Concrete Pavement increased by 20 percent
- Cold Plane Asphalt Concrete Pavement increased by 60 percent
- Temporary Railing (Type K) increased by 50 percent

The positive protection requirements introduced the need for a moveable concrete barrier system. This system is estimated at \$3,500,000.

**Support Cost Increase:**

The additional work increased the construction support estimate to \$6,608,000, an increase of \$2,608,000 (65.2 percent) over the programmed amount of \$4,000,000. With the recommendations to proceed with full lane replacements in lieu of spot slab replacements at certain locations, addition of fiber optics, and provisions for positive protection measures, support estimates increased substantially. Moreover, it was assumed that by combining with the locally sponsored Express Lanes project, support cost would see some savings. However, a substantial portion of the construction support is due to the extensive amount of nightwork

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and detours. The nightwork and detours are primarily attributable to the SHOPP-funded rehabilitation work since the express lanes work can mostly be done behind K-rail during the day. In addition, the implementation of positive protection measures with movable concrete barriers is anticipated to also require a substantial amount of support due to the use of an innovative protection system that will allow for nightly placement and removal of the protection barriers. Additional support was also needed for the detours and traffic control measures in support of the closures.

**CONSEQUENCES:**

If the funds are not approved, it would result in the cancellation of the southbound rehabilitation project, since the project has already received a 20-month time extension for construction allocation that expires in February 2022. Moreover, denial of the request will also result in the suspension of the construction of the express lane project since contract plans and specifications have already been combined, containing both express lane and rehabilitation components. The Department would also need to reprogram and redesign the southbound rehabilitation project, potentially delaying the rehabilitation of the southbound lanes for several years resulting in delayed improvements for the motorists.

**FINANCIAL RESOLUTION:**

Resolved, that \$67,247,000 be allocated from the Budget Act of 2021, Budget Act Items 2660-302-3290 and 2660-302-0890 for construction capital, and \$6,608,000 for construction support to provide funds to advertise the project.

Attachment